

**Notice of Allowability**

Application No.

09/704,050

Examiner

Wen-Tai Lin

Applicant(s)

PHILLIPS ET AL.

Art Unit

2154

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 6/12/2006.
2. ☒ The allowed claim(s) is/are 1-12, 46-56, 77-87, 89-100, 134-144 and 165-175, renumbered as 1-68.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

Wen-Tai Lin  
7/24/06

### EXAMINER'S AMENDMENT

1. An examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.

Authorization for the examiner's amendment was given in a telephone interview with Ms. Abigail Cousins, reg. no.29292, on July 21, 2006.

2. In the claims: please amend claims 1, 46, 77, 89, 134 and 165 to the following:

1. (currently amended) A method for providing multi user file storage comprising the steps of:

- (a) enabling each user of a pre-subscribed user group of one or more users to connect an arbitrary client node at an arbitrary geographic location to a remote file server node via a wide area network,
- (b) enabling each user of the pre-subscribed user group to access files of a file group at the remote file server node via the respective client node connected to the remote file server node via the wide area network, including permitting, when the pre-subscribed user group includes at least two users, more than one user of the pre-subscribed user group to access the same file of the file group at the remote file server node simultaneously,
- (c) maintaining the integrity of the files at the remote file server node by controlling each access to each of the files at the remote file server node so that each access to each of the files at the remote file server node is performed, if at all, on a respective portion of the respective file as most recently updated at the remote file server node, wherein the respective portion is less than all of the respective file, thereby enabling all native operating system application programming interfaces to operate so that all multi-user applications accessing the files function as if the remote file server node, which stores the files, and client nodes, at which such multi-user applications execute, were on the same local area network, and
- (d) delegating access control to a particular file of the group of files to an access control node delegating both privileged rights access control and file sharing mode access control to a

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particular file of the group of files to one or more distributed nodes other than the remote file server node which provides the data.

46. (currently amended) A method for providing multi user file storage comprising the steps of:

(a) enabling each user of a pre subscribed user group of one or more users operating an arbitrary client node at an arbitrary geographic location to communicate with a remote file server node via a wide area network,

(b) enabling each user of the pre subscribed user group to access files of a file group at the remote file server node via the respective client node in communication with the remote file server node via the wide area network, including permitting, when the pre-subscribed user group includes at least two users, more than one user of the pre subscribed user group to access the same file of the file group at the remote file server node simultaneously,

(c) providing an interface for adapting file access at a particular client node by designating at the particular client node each accessible file of the file group as stored on a virtual storage device, and enabling access to the designated files in a fashion which is indistinguishable, by users of, and applications executing at, the particular client node, with access to one or more files stored on a physical storage device that is locally present at the particular client node, and

(d) ~~delegating access control to a particular file of the group of files to an access control node~~ delegating both privileged rights access control and file sharing mode access control to a particular file of the group of files to one or more distributed nodes other than the remote file server node which provides the data, such that access to the particular file maintained at the remote file server node occurs on a most up to date version of the particular file.

77. (currently amended) A method for providing multi user file storage comprising the steps of:

(a) enabling each user of a pre subscribed user group of one or more users operating an arbitrary client node at an arbitrary geographic location to communicate with a remote file server node via a wide area network,

(b) enabling each user of the pre subscribed user group to access files of a file group at the remote file server node via the respective client node in communication with the remote file server node via the wide area network, including permitting, when the pre-subscribed user group includes at least two users, more than one user of the pre subscribed user group to access the same file of the file group at the remote file server node simultaneously,

(c) transferring an encrypted key from the remote file server node to a particular client node via a secure channel, the encrypted key being encrypted using an encryption function not known locally at the remote file server node, the key being decryptable using a decryption function not known locally at the remote file server node, the decryption function being also not known locally at any other client node usable by others of the pre-subscribed user group,

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- (d) decrypting the transferred key at the particular client node,
- (e) using the key at the particular client node to decrypt information of a file downloaded from the remote file server node or to encrypt information of a file prior to uploading for storage at the remote file server node, and
- (f) ~~delegating access control to a particular file of the group of files to an access control node~~ delegating both privileged rights access control and file sharing mode access control to a particular file of the group of files to one or more distributed nodes other than the remote file server node which provides the data.

89. (currently amended) A system for providing multi user file storage comprising the steps of:

a remote file server node for enabling each user of a pre subscribed user group of one or more users to connect an arbitrary client node at an arbitrary geographic location to communicate with said remote file server node via a wide area network,

a storage device at the remote file server node for enabling each user of the pre subscribed user group to access files of a file group at the remote file server node via the respective client node in communication with the remote file server node via the wide area network, including permitting, when the pre-subscribed user group includes at least two users, more than one user of the pre subscribed user group to access the same file of the file group at the remote file server node simultaneously, and

wherein the remote file server node is also for while enabling a plurality of the users to access the same file, concurrently maintaining the integrity of the files at the remote file server node by controlling each access to each of the files at the remote file server node so that each access to each of the files at the remote file server node is performed, if at all, on a respective portion of the respective file as most recently updated at the remote file server node, wherein the respective portion is less than all of the respective file, thereby enabling all native operating system application programming interfaces to operate so that all multi user applications accessing the files function as if the remote file server node, which stores the files, and client nodes, at which such multi user applications execute, were on the same local area network, and

wherein the remote file server node is also for ~~delegating access control to a particular file of the group of files to an access control node~~ delegating both privileged rights access control and file sharing mode access control to a particular file of the group of files to one or more distributed nodes other than the remote file server node which provides the data.

134. (currently amended) A system for providing multi user file storage comprising: a specific client node at an arbitrary geographic location, usable by a user of a pre subscribed user group for communicating with a remote file server node via a wide area network, the remote file server enabling each user of the pre subscribed user group to access files of a file group at the remote file server node via the respective client node in communication with the remote file server node via the wide area network, including permitting, when the pre-subscribed user group includes at least two users, more than one user of the pre subscribed user group to access the same file of the file group at the remote file server node simultaneously, and

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an interface for adapting file access at the specific client node by designating at the specific client node each accessible file of the file group as stored on a virtual storage device, and enabling access to the designated files in a fashion which is indistinguishable, by users of, and applications executing at, the specific client node, with access to one or more files stored on a physical storage device that is locally present at the specific client node, and

wherein the remote file server node is also for ~~delegating access control to a particular file of the group of files to an access control node~~ delegating both privileged rights access control and file sharing mode access control to a particular file of the group of files to one or more distributed nodes other than the remote file server node which provides the data, such that access to the particular file maintained at the remote file server node occurs on a most up to date version of the particular file.

165. (currently amended) A system for providing multi user file storage comprising:  
a remote file server node for enabling each user of a pre subscribed user group of one or more users operating an arbitrary client node at an arbitrary geographic location to communicate with a remote file server node via a wide area network,

a storage device at the remote file server node for enabling each user of the pre subscribed user group to access files of a file group at the remote file server node via the respective client node in communication with the remote file server node via the wide area network, including permitting, when the pre-subscribed user group includes at least two users, more than one user of the pre subscribed user group to access the same file of the file group at the remote file server node simultaneously, and

a particular client node,

wherein the remote file server node is also configured for transferring an encrypted key from the remote file server node to a particular client node via a secure channel, the encrypted key being encrypted using an encryption function not known locally at the remote file server node, the key being decryptable using a decryption function not known locally at the remote file server node, the decryption function being also not known locally at any other client node usable by others of the pre subscribed user group,

wherein the particular client node is also configured for decrypting the transferred key at the particular client node, and for using the key at the particular client node to decrypt information of a file downloaded from the remote file server node or to encrypt information of a file prior to uploading for storage at the remote file server node, and

wherein the remote file server node is also for ~~delegating access control to a particular file of the group of files to an access control node~~ delegating both privileged rights access control and file sharing mode access control to a particular file of the group of files to one or more distributed nodes other than the remote file server node which provides the data.

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3. In the Specification:

(i) On page 1 line 7, insert after "1996" --, U.S. Patent No. 6148377, --; and

(ii) On page 1 line 23, insert after "herewith" --, now abandoned, --.

4. The abstract is rewritten to limit its length to within 150 words. See the attached page.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (571)272-3969. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3964. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(571)273-8300 for official communications; and

(571)273-3969 for status inquires draft communication.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Tai Lin

July 21, 2006

*Wen-Tai Lin*  
7/21/06

### **Abstract of the Disclosure**

A multi-user file storage service and system enable each user of a pre-subscribed user group to communicate with a remote file server node via a wide area network and to access the files of the file group via the respective client node. More than one user of the pre-subscribed user group is permitted to access the file group at the remote file server node simultaneously. Integrity of the files at the remote file server node are maintained by controlling each access to each file at the remote file server node so that each access to files at the remote file server is performed, if at all, on a respective portion of each file as most recently updated at the remote file server node. Additionally, an encrypted key is transferred from the file server node to a particular client node via a secure channel. The encrypted key uses an encryption function and a decryption function not known locally at the remote file server. Furthermore, both privileged access control rights and file sharing mode access control to a particular file of the group of files are delegated to one or more distributed nodes other than the remote file server node which provides the data.